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THE TWENTY-FIFTH ANNIVERSARY OF
DOCTOR VICTOR C. VAUGHAN'S
GRADUATION.

ON the 18th of June there was presented to Doctor Victor C. Vaughan, in the presence of alumni, students, colleagues and friends, a volume of contributions to medical research, containing thirty-four papers, dedicated to him by colleagues and former students of the department of medicine and surgery, in honor of the twenty-fifth anniversary of his doctorate.

ADDRESS OF PRESIDENT JAMES B. ANGELL.

Ladies and Gentlemen: My duty is a very simple and a very pleasant one, as the official head of the university, to express the gratification which the authorities of the university, as well as alumni and undergraduates, feel on this interesting occasion. We have come to follow a very agreeable custom, which we may say we are indebted to our German friends for establishing, of recognizing the services of a friend who has been of great use to this institution; and I am very glad that in introducing this pleasant German custom we have here the countenance of our German friend, Dr. Kiefer, who has done so much for this movement. I should prefer that he would have discharged this pleasant duty, but it is proper, perhaps, that I should appear, if only for a moment, in these services.

I am one of the gentlemen here who are old enough to remember when Doctor Vaughan was very young. I can well remember when we had the great pleasure of importing him from the trans-Mississippi region and the pleasure with which we watched his brilliant progress as a student. The medical department of this university has undergone great changes since that time. The courses of instruction were much briefer then, the period allotted to the study of medicine was very much shorter than it is now, and I pre-

sume those young gentlemen on the upper seats will believe that it was much less rigorous than it is now. The instruction was very largely given by lectures, and perhaps some of these recent graduates will be surprised to learn that some of the gentlemen in the faculty at that time very strenuously urged that it was far more profitable for the students to hear the lectures the second time than it was to hear them the first time. I used to argue this question out at length with one of the professors, because as a layman it was very difficult for me to understand how hearing the whole course of lectures the second time helped matters, but I was assured that, pedagogically, it was right, that it took the first year to mellow the medical student's mind up to the point where in the second year he could understand what was meant by the lectures. As you look down upon some of these older graduates, who went through that process of training, you must not interpret too literally as correct that view of the case. I presume these gentlemen will deny that that was the pedagogical reason for that course of instruction.

As I have said, the medical work in those days was more largely given by lectures than at present. The laboratory courses have come into use since that time. It is due very largely, I may say, to the dean of the department, though doubtless by the aid of many of his associates, that so great emphasis is now placed upon this new, and more profitable, mode of scientific instruction. Of the important part that he has played during these twenty-five years, I need myself hardly speak in detail; I can assure you, however, that it was with great pleasure that we who had witnessed his career as a student saw him very early fulfilling the promise which he had given as a student, in the brilliant

scientific discoveries which he has made, and which are of great importance in the hygienic history of his time. The promise that he then gave has been more than redeemed up to the present time, so that not only is his name well known and the name of the medical department of the university through him well known in this country, but also in all European countries.

I am sure there is no one here and no one ever connected with the university who does not feel grateful to him for the services he has rendered. Still more are we glad, notwithstanding his twenty-five years of service, to look into his face and see that he is still a young man and doubtless has a long career yet before him, and we shall be very glad to come here—some of you will have a better chance than I—twenty-five years hence to have another and more imposing celebration.

I am sure you all rejoice with us on this occasion, and I shall not detain you from the pleasure of enjoying the services which have been more especially appointed. I have risen merely to speak an official word, and also to have the pleasure of speaking a personal word of congratulation to one whom I delight to count as one of my most cherished friends.

Professor Albert B. Prescott, of the University of Michigan, made the presentation in behalf of the contributors.

ADDRESS OF PROFESSOR ALBERT B. PRESCOTT.

Fellow Alumni and Friends: I am honored surely in being asked to say something in this presentation of a gift to-day. It is a privilege as well as an honor to speak on the part of such men as those who are making this gift, men who are the most cherished and most influential of the medical alumni of this university.

For gifts there are returning times and seasons. For a gift there is now and then a period standing almost alone by itself.

Of gifts there are various kinds and various meanings. Whatever a gift may be, it means more than it is. It is a mode of speech, a form of expression, a record of events. In the making of this gift a memorial volume has been wrought out piece by piece in the unwearied toil of strenuous life. For the making of this gift we have a quarter of a century, a period in the lifetime of an alumnus, an era in the history of this university, a memorable period in the advancement of a great scientific profession. The occasion is one that touches all our hearts.

This Festschrift is a symposium of scientific learning, a production of lasting import, an essential record of the advancement of science and of the profession of medicine. It consists of thirty-four separate investigations, each one conceived in faith and wrought in patience, each one the chosen product of its author's personal power. In such a piece of research work as is undertaken in the making of any one of these papers we can but imagine how advances are gained step by step, finding out what is right by proving what is wrong, reaching forward in this direction and then in that, assured that every result of truth adds something, may add much, to the sum of the knowledge and power and good of mankind.

If I were competent to speak of these records of researches in the domain of medical knowledge, I should not have time now even to enumerate them, but I recognize that they are from men who have become authorities in the world, by their several investigations and through their experience in scientific pursuits. As I look over the titles of these papers I see that they form a symposium of research, embracing certain fundamental principles, and presenting a series of discoveries, which unite together naturally

and inevitably to constitute a tribute of honor to the one man unto whom this gift is now being made. The book belongs to him, by virtue of its history and by virtue of its subject matter. We are but rendering what is due, and so this gift is made to you, Doctor Victor C. Vaughan, made to you as an acknowledgment of the services you have rendered to the world of science and this university, to the cause of medical education, to advances in scientific work wherever undertaken.

We have great pleasure in recalling, as President Angell has so feelingly done, the last quarter century of progress in this university. It is in fidelity to the spirit of advancement, and to service of the truth, that this volume is presented. It is in the conviction that scientific labor is at the heart of education and educational means and methods, that this expression is made. It is to you, Victor C. Vaughan, who twenty-five years ago received the degree of doctor of medicine from this university, previously having received two degrees in science, upon examination here; our friend known and honored in the country and in the world, major and surgeon of the United States Volunteers, a trusted counsellor, preeminently a leader in the work in which you are engaged, in the name of the working contributors to this volume, in the name of the alumni of the department of medicine and surgery, in the name of all the alumni of the university, we take great pleasure in placing this volume in your hands.

ADDRESS OF PROFESSOR VICTOR C. VAUGHAN.

On accepting the volume, Professor Vaughan spoke as follows:

Mr. President, Gentlemen of the Board of Regents, Doctor Prescott, Members of my old class, Colleagues and Friends: This I do not deserve. The world has been more than kind to me; my friends

have conferred upon me many honors, which might have been more worthily worn by others; but I have never received an honor which I appreciate more highly and in the receiving of which I feel more keenly my unworthiness than in this. The work that I have done for the university and for science is overestimated by those who have been kind enough to speak.

I owe much to the University of Michigan. Thirty years ago when I had secured the best education possible in my native state, and when I was looking about for an opportunity to pursue my studies farther, the state of Michigan offered me what I desired and at a cost within the limits of my scanty purse. Whatever I have done, and whatever I may do in the future, will hardly repay the University of Michigan for what it has done for me. This is my feeling towards the university. To those who make up the university, I owe much. To our worthy president, to whom I have always gone in times of discouragement for words of cheer, to whom I have always gone in times of indecision or doubt for wise and able counsel, I owe much. To the honorable members of the board of regents I owe much. A few years ago, when it became necessary, on account of death and resignation, to reorganize the medical department, the members of the board of regents enabled me to select the present most excellent medical faculty. To my colleagues in the university as a whole I owe much. It has been a pleasure to live among them; it has been an inspiration to work and be associated with them; and, so far as my immediate colleagues on the medical faculty are concerned, I am in the habit of saying, and with great truth, that of all of the research work that I have ever done, the grandest and best piece is that, by the authority of the board of regents, I have been able to

collect together a medical faculty every member of which is a master in his specialty.

It is easy enough to have a good medical school, and it is easy enough to be dean of such a school, if you have a good faculty and good students, and I owe much to the students in this department. I want to say that the spirit for good, honest work and the inclination to be gentlemanly and honorable in everything have always prevailed among the student body in this university. It is an honor to me that I have been associated as teacher with some of the greatest scientific men in this country; however, these men do not owe their attainments to any instruction that they have received from me. They would have been great and probably greater still had their instruction been received from others.

I want especially to express my personal gratitude to him from whose hands I have received this volume. When I came a student to the University of Michigan, Doctor Prescott was then, and he still is, the Nestor of scientific research in this university. From him more than from any other man have I received the inspiration for scientific work which has led me to accomplish whatever I have done. I well remember one of the first problems at which he placed me. It was a new test or a newly reported test for arsenic, reported by one of the most distinguished of chemists, and the doctor asked me to determine its delicacy. I reported from day to day and week to week as to the delicacy of the test, until I was getting it down to high dilutions. One day when I made such a report the good doctor raised his eyebrows and said that possibly I might make that test without any arsenic present, and I made it and found the result equally positive.

President Angell has explained how it

is that my classmates who occupy the second and third rows of seats before me, the class of 1878, got through the university. It was necessary, in order to get us through, that the lectures be repeated to us for two successive years and in this way we were finally nourished sufficiently to become doctors and be turned out on the world.

Now, my friends, in accepting this volume I shall not regard it as a trophy of any achievement. I shall regard it as a tribute of love and respect, which I shall prize more highly than anything else, from my colleagues, my students and my friends. In its pages I expect to find inspiration for farther work; in its pages I expect to find comfort in my hours of rest and when I am through with it I shall bequeath it to my children as my most valuable earthly possession. I take it, that this volume is presented to me as a result of the spirit of scientific research of those who have made these contributions, and I wish to say to the honorable board of regents that I hope that you will grant me the privilege never denied an old servant, to offer one word of advice and to say that if you wish to maintain the glory, honor and reputation of this university, you will encourage the young man who is able to do research work. It was not until scientific research came with experimental investigation, that the world began to grow and develop until within the last century its progress has been greater than in all the preceding centuries. It is scientific research that has made the German universities the very center not only of science, but of letters as well. I read only a few days ago a very interesting book by a graduate of Oxford, entitled 'Oxford at the Cross-Road,' and this man inquires whether Oxford and Cambridge are to continue as literary boarding houses, or whether they are to join the great universities of other

lands in working out the problems of the twentieth century. Scientific research has not always found the most congenial atmosphere in American universities. It has not been as thoroughly appreciated as it might be and as it should be, and the American university of to-day, like Oxford and Cambridge, stands at the cross-roads. Shall it be an enlarged and amplified high school, or shall it become a center for the evolution of knowledge and discovery. Has not the state the right to ask of its university the very best knowledge possible upon every subject in which the welfare of the people may be involved?

My friends, my heart, always larger than my head, overflows with the emotions which my poor tongue can not adequately express. I desire to thank all of you for this highly appreciated, but, I fear, poorly deserved, tribute.

SCIENTIFIC BOOKS.

A Text Book of Plant Physiology. By GEORGE JAMES PEIRCE, Ph.D., Associate Professor of Plant Physiology, Leland Stanford Junior University. New York, Henry Holt and Company. 1903. 8vo. Pp. vi + 292.

The author of this work in his preface, which bears date of December, 1902, says that the book is the outcome of his own work in Stanford University, and that after the material had been worked over for some time in lectures it finally took form in the present volume. His intention is 'to present the main facts of plant physiology and the saner hypotheses regarding them, striving to express safe views rather than to echo the most recent, attempting here and there to suggest definite problems for investigation and everywhere trying to avoid giving the impression that the science or any part of it has reached ultimate knowledge and final conclusions.' This intent on the part of the author has been well carried out, and we may congratulate him upon the book which he has added to American

botanical literature. He has made no attempt at giving directions for experiments, 'believing that a laboratory manual and a text-book must meet such different needs that the style of the one is impossible for the other.' However, the author insists that actual laboratory work must be carried on under the guidance of a teacher in the study of the subject.

Dr. Peirce gives his ideas as to the aim of physiology in the following words, which we may well quote:

"According to Pfeffer, 'the aim of physiology is to study the nature of all vital phenomena in such a manner that, by referring them to their immediate causes, and subsequently tracing them to their ultimate origin, we may arrive at a complete knowledge of their importance in the life of the organism.' Physiology is a study not merely of structure, though to its successful pursuit a knowledge of structure is indispensable; nor of organized bodies, though a knowledge of the laws which govern their organization (structure and form) is important. It is the study of the living organism."

On a later page he says: 'The physiologist is now striving not only to know the functions which are the manifestations of the life possessed by complicated living structures or organisms, but also to determine the causes, both of structure and of functions.'

These quotations will sufficiently indicate the spirit in which the book is written.

In the introductory chapter there is an instructive summary under the heading 'The Conditions Essential to Life' as follows:

"1. Proper Food—(a) the source of the materials of which the body is built, and (b) of the energy by which the body is built and operated.

"2. Water—(a) the vehicle of the food-materials and of the foods absorbed into the body and transferred from part to part, and also (b) an indispensable component of actively living protoplasm.

"3. Proper Temperature—which makes possible the vital, *i. e.*, the chemical and physical, changes which must go on within the body, and in all of its parts, lest inaction and death ensue.

"4. Proper Illumination—which furnishes the organism with the forms of energy—physical and chemical—thermal, lumipous and actinic—of which it is directly or indirectly in need.